



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/922,060	08/03/2001	Deepak Pai	10001-29420	7591
2574	7590	04/22/2004	EXAMINER	
JENNER & BLOCK, LLC ONE IBM PLAZA CHICAGO, IL 60611			MAYEKAR, KISHOR	
		ART UNIT	PAPER NUMBER	
		1753		

DATE MAILED: 04/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/922,060	PAI, DEEPAK
	Examiner	Art Unit
	Kishor Mayekar	1753

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

Disposition of Claims

- 4) Claim(s) 1-36 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) 35 is/are allowed.

6) Claim(s) 1-34 and 36 is/are rejected.

7) Claim(s) _____ is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.

10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) Notice of Informal Patent Application (PTO-152)
6) Other: _____.

DETAILED ACTION

1. Applicant's arguments with respect to claims 1-36 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 31-34 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for the cylindrical dielectric, does not reasonably provide enablement for the cylindrical dielectric when the cell is rectangular in cross-section. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention commensurate in scope with these claims.

Claim Rejections - 35 USC § 102 or § 103

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1, 2, 11, 12, 29 and 36 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by HEMINGWAY et al. (6,464,945). See Fig. 3 or 5; col. 3, line 59 through col. 4, line 24; and col. 1, lines 9-25.

6. Claims 18, 19 and 26-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over HEMINGWAY '945. The differences between HEMINGWAY

and the instant claims are the use of copper as the conductive coating as the treating of the dielectric substrate. As to the former, the subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified HEMINGWAY's teachings because the selection of any of known equivalent conductive coating materials would have been within the level of ordinary skill in the art.

As to the subject matter of claim 19, The subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified HEMINGWAY's teachings because it has been settled that proper adjustment of a known effective variable of a known or obvious process is within the capabilities of one having ordinary skill in the art. *In re Aller* 105 USPQ 233; *In re Boesch* 205 USPQ 215.

As to the latter, the subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified HEMINGWAY's teachings because the issue of treating of the dielectric in a claimed device cannot be given any patentable weight as to the difference between the treated dielectric and the non-treated dielectric.

7. Claims 4-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over HEMINGWAY '945 in view of KIESER et al. (5,746,051). The difference between HEMINGWAY and the instant claims is the provision that the conductor consists of a conductor substrate and a conductor coating layer. KIESER shows in device for treating exhaust gas, the provision of using a metal with catalytic action as the conductor (col. 4, lines 4-6). The subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified HEMINGWAY's teachings because the selection of any of known equivalent metals with catalytic action would have been within the level of ordinary skill in the art. As to the provision of separate element for the conductor, because the selection of any of known equivalent conductive coating material either one or more layers would have been within the level of ordinary skill in the art.

8. Claims 4-10 and 13-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over HEMINGWAY '945 in view of LIOU (6,007,785) and RACCA et al. (6,024,930). The difference between HEMINGWAY and the instant claims are the material for the conductor and the conductive coating. LIOU shows that an ozonizer is a dielectric barrier discharge plasma (col. 1, lines 13-27). RACCA, a

reference cited in the previous Office action, shows the use of material for the conductor and the conductive coating in an ozonizer (col. 1, lines 51-65 and col. 2, lines 56-67). The subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified HEMINGWAY's teachings as suggested by LIOU and RACCA because the selection of any of known equivalent conductive coating materials for the electrodes would have been within the level of ordinary skill in the art.

9. Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over HEMINGWAY '945 in view of SLIPEC et al. (3,967,131). The difference between HEMINGWAY and the instant claims is the use of corrugated dielectric and conductor. SLIPEC, another reference cited in a previous Office action, shows in an ozonizer (dielectric barrier discharge plasma) that the corrugation of dielectric and electrodes are known (col. 2, lines 13-19 and col. 28-35). The subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified HEMINGWAY's teachings in view of SLIPEC because the selection of any of known equivalent arrangements of the

dielectric and electrodes would have been within the level of ordinary skill in the art.

10. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over HEMINGWAY '945 in view of BIRMINGHAM et al. (4,954,320). The difference between HEMINGWAY and the instant claims is the provision of a transformer. BIRMINGHAM shows in device for treating gas the use of transformer (Fig. 1). The subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified HEMINGWAY's teachings in view of BIRMINGHAM because "the use of conventional materials to perform their known functions in a conventional process is obvious". In re Raner 134 USPQ 343.

Allowable Subject Matter

11. Claim 35 is allowed.

12. The following is an examiner's statement of reasons for allowance: Because none of the prior art references discloses in a dielectric barrier discharge plasma system the limitation of a plurality of dielectric barrier discharge plasma cells arranged radially and the cells generally rectangular in cross-section in combination with other recited structures as claimed in claim 35.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Response to Arguments

13. Applicant's arguments filed November 28, 2003 have been fully considered but they are not persuasive because of the new grounds of rejection to claims 1-34 and 36 as set forth in the above paragraphs.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kishor Mayekar whose telephone number is (571) 272-1339. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam Nguyen can be reached on (571) 272-1342. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Kishor Mayekar
Primary Examiner
Art Unit 1753